

REMARKS/ARGUMENTS

Claims 1 and 4-14 stand rejected, with claims 2 and 3 objected to in the outstanding Official Action. Claims 1 and 4 have been amended and newly written claims 15 and 16 submitted for consideration. Therefore, claims 1-16 remain in this application.

The Examiner's acknowledgment of Applicant's claim for foreign priority and receipt of the certified copies of the priority documents is very much appreciated. Additionally, the Examiner's indication of PTO acceptance of the formal drawings is appreciated. Finally, the Examiner's consideration of the prior art submitted with Applicant's Information Disclosure Statement is very much appreciated.

On page 2 of the outstanding Official Action, the Examiner objects to the abstract of the disclosure as exceeding 150 words in length. Applicant has submitted a revised abstract of the disclosure having less than 150 words in length and also removing the alleged legal phraseology. Entry and acceptance of the revised abstract of the disclosure is respectfully requested.

Claim 4 stands objected to, with the Examiner correctly noting that in line 2, the word "to" should be changed to read "from." Applicant has made this amendment in the above-identified amendment to claim 4.

The Examiner also indicates in the paragraph at the end of page 5 that claims 2 and 3 contain allowable subject matter if rewritten in independent form. Applicant submits newly written claim 15 comprising a literal combination of former claims 1 and 2, and newly written claim 16 is identical to present claim 3 but dependent from claim 15. Accordingly, newly written claims 15 and 16 are in condition for allowance in accordance with the outstanding

Official Action. The indication of allowable subject matter in these claims is very much appreciated.

Claims 1 and 4-14 stand rejected under 35 USC §103 as unpatentable over Page (U.S. Patent 5,325,102) in view of Cheston ("Time-delay feed architectures for active scanned arrays"). As will be seen, at least one claimed structure in independent apparatus claim 1 and the corresponding method step in method claim 12 is not disclosed in either the Page or Cheston references and therefore these references separately or in combination cannot disclose or suggest the subject matter of Applicant's claims.

With respect to the Page reference and present claims 1 & 12, the Examiner alleges that item 10 in the Page reference is the equivalent or suggests Applicant's claimed "demultiplexing means" (claim 1) and "separating" step (claim 12). However, in the Page apparatus, modulated optical signals for each antenna element remain separate and are **never combined or multiplexed in the "optical commutator 10."** Instead, the optical commutator 10 (which the Examiner suggest somehow combines the separate signals) merely acts like an electrical commutator in a motor works, i.e., it applies the appropriate voltage to the appropriate windings of the rotor as the rotor turns in the motor.

In the optical commutator, a single optical signal from the rotating ring is applied to a single optical fiber in the fixed ring. No optical signals are combined, let alone multiplexed. There is simply no combined optical signal and therefore there is no need to demultiplex or separate the optical signals in a demultiplexing system because each of the signals in Page remain separate and are separately applied to the optical detector 34. Where or how the

Examiner believes there is any demultiplexing disclosed in the Page reference is not seen and clarification respectfully requested.

Applicant also notes that the Examiner suggests that item 10 in the Page reference is "antenna elements (10)" in the discussion of the delay means. Actually item 10 in Page is the optical commutator. While there are different optical delays in the fibers providing the separate signals to the optical commutator, optical commutator 10 has nothing to do with the delay means itself. Rather, it is the optical fibers that comprise the delay means in the Page reference. Again, should the Examiner believe that item 10 comprises the delay means, he is respectfully requested to provide a detailed explanation of how this occurs.

Because there is no multiplexing of optical signals in the Page reference, there can be no demultiplexing of signals and therefore no claimed "demultiplexing means." Because Page fails to teach structure positively recited in Applicant's claim 1 ("demultiplexing means for separating" is in conventional "means-plus-function" format and is completely in accordance with 35 USC §112 (sixth paragraph)) there is no support for any rejection under 35 USC §103.

The Examiner's admissions that:

“Page fails to disclose the delay means comprising: a plurality of first delay units, each of which is associated with a different one of the antenna elements and is operable to apply selectively either a first amount of delay or a second amount of delay to the respective modulated optical signal passing therethrough; and a plurality of second delay units, each of which is linked in series to at least one of the first delay units and is operable to apply selectively either a third amount of delay or a fourth amount of delay to modulated optical signals passing therethrough, and wherein at least one of said second delay units is connected in series to at least two of the first delay units”

in the paragraph bridging pages 3 and 4 of the official action is very much appreciated.

The Examiner suggests that Cheston discloses the claimed delay means. However, Applicant's claim 1 is amended to recite "delay means for applying an amount of delay to modulated optical signals passing therethrough . . . " (emphasis added) which is set out in proper "means-plus-function" form in accordance with 35 USC §112 (paragraph 6). In actuality, the Cheston reference contains no mention of any optical signal at all. While Cheston's apparatus uses switched digital time-delay circuits to impart delays, there is no suggestion that the delay architecture in Cheston is or could be applied to optical signals. Therefore, the absence of optical signals clearly establishes that Cheston fails to teach Applicant's claimed "delay means" and thereby supply this structure which the Examiner admits is missing from the Page reference.

It is also noted that Cheston contains no disclosure of any need to multiplex signals and therefore fails to contain any teaching or suggestion of Applicant's claimed "demultiplexing means." Inasmuch as **both** the Page patent and the Cheston reference fail to contain any disclosure or suggestion of a "demultiplexing means," the subject matter of Applicant's independent claims 1 and 12 is not disclosed in either reference and therefore cannot be considered obvious even in view of a combination of these two references.

Moreover, the Examiner's statement that it would have been "obvious to replace the delay means of Page with the delay means taught by Cheston" does not provide the required "reason" or "motivation" for combining references. Because the Cheston delay means has nothing to do with delaying modulated optical signals, it would not be compatible with the Page system, even if there were a reason to combine it (which there is not). The Examiner has pointed to no reason why one of ordinary skill in the art realizing that Page does not contain Applicant's claimed delay means would nonetheless look elsewhere to find such a delay means. Why would one of

ordinary skill in the art even look to the Cheston reference when it has nothing to do with optical signals or modulating optical signals or a delay means related to modulated optical signals?

The Examiner has simply looked to find what he believes are similar elements in the different references and then picks and chooses those elements and combining them in the fashion of Applicant's claim in order to render obvious the claim. This is simply 20/20 hindsight reasoning and has been prohibited by the Court of Appeals for the Federal Circuit in obviousness rejections.

Since there is no basis for combining the Page patent and the Cheston reference, there is no support for the rejection of claims 1 and 12 or claims 4-11 and 13-14, respectively, dependent thereon and therefore any further rejection of these claims in view of the Page/Cheston combination is respectfully traversed.

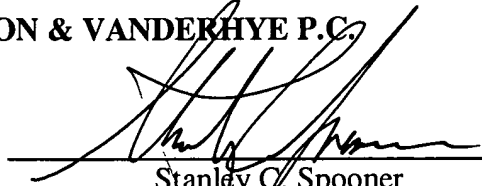
Having responded to all objections and rejections set forth in the outstanding Official Action, it is submitted that amended claim 1 and claims 2-14 dependent thereon are clearly in condition for allowance. Newly written claims 15 and 16 correspond to indicated allowable claims 2 and 3 and should also be allowed. In the event the Examiner is of the opinion that a brief telephone or personal interview will facilitate allowance of the above claims, he is respectfully requested to contact Applicant's undersigned representative.

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Respectfully submitted,

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